



DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
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DETROIT, MICHIGAN 48231-1027

July 31, 2003

MEMORANDUM FOR: Shippers Transiting the Lower St. Marys River during August 2003

SUBJECT: Expected St. Marys River Daily Flows.

The International Lake Superior Board of Control (Board), under the authority granted to it by the International Joint Commission, has set the August Lake Superior outflow at 2,110 m³/s (74,500 cubic feet per second (cfs)) effective August 1, 2003. This is an increase from the July outflow of 2,040 m³/s (72,000 cfs). During August levels in the Lower St. Marys River, particularly in the Soo Harbor area below the Soo Locks can be expected to fluctuate several inches. Natural factors such as wind (strength, direction and duration) and barometric pressure changes are significant factors contributing to these level fluctuations in the Lower St. Marys at this time as well as in all Great Lakes connecting channels. Variations in hydropower plant outflows during August can also contribute to these fluctuations. See the attached Table 1 for a schedule of the expected St. Marys River flows during August. Tables 2 and 3 show projected end of month water levels and monthly mean outflows respectively for Lakes Superior and Michigan-Huron over the next six months.

The August mean U.S. Slip level is expected to be above Chart Datum. However, levels can be expected to fluctuate above and below the mean level during the month. The Board will allow the hydropower companies to pond, or flow at decreased rates on weekends and holidays, during the periods indicated in Table 1. The Board will review this decision during the second week of August. Notification of any change in the decision will be provided by August 13th and if necessary a revised Table 1 will be issued. In the interim flows for the period August 16th through September 2nd are indicated as provisional.

Refer to Table 1 for the expected weekday; weekend and holiday flow rates for the period August 1 through September 2, 2003. Fluctuation in Soo Harbor area levels due to expected hydropower flow variations are likely to be on the order of +/-5 cm (+/-2 inches). Water levels may drop during periods of reduced flows and rise again during periods of increased flows. In addition to the fluctuations caused by hydropower flow variations on levels adverse weather conditions (winds, barometric pressure changes, etc.) may be a significant additional cause of level fluctuations.

The hydropower operators (ESEC, GLPL and U.S. Government) have been requested to notify "Soo Traffic" and the Lockmaster at the Soo Locks Tower of any significant flow changes other than those indicated in Table 1.

It is suggested that USCG Soo Control and the Lockmaster at the Soo Locks be contacted by

shipmasters to find out what prevailing conditions are on the St. Marys River and in the vicinity of the Soo Locks prior to reaching the area. Information on conditions in the vicinity of the Soo Locks can be obtained by contacting the U.S. Coast Guard "Soo Traffic" by radiotelephone on VHF-FM Channels 12 and 16. Reference the U.S. Coast Pilot 6, 31st Edition, Chapter 12, "St. Marys River", Par. (37).

For information on matters related to canal operation, traffic movement through the locks, and for emergency purposes only, the chief lockmaster at the Soo Locks operates a vessel dispatch station from the administration building on the pier between the Poe and MacArthur Locks. The station operates on VHF-FM channels 14 and 16; call sign WUE-21. The voice call for the station is "WUE-21" or "Soo Locks". Upbound vessels intending to transit the locks shall contact the lockmaster initially, immediately before the turn at Mission Point, at the intersection of Course 1, Bayfield Channel and Course 2, Little Rapids Cut for lock assignment. Downbound vessels shall make initial contact at Ile Parisienne, then at Big Point for lock assignment. In order that the dispatch made will cause the least delay to the vessel involved, vessel masters are requested to refrain from making their dispatch calls prior to reaching the above locations. This station is considered to have an effective operating range of 50 miles. **Again, operation is limited to communication with vessels on matters related to canal operation, traffic movement through the locks, and for emergency purposes.** Reference the U.S. Coast Pilot 6, 31st Edition, Chapter 12, "St. Marys River", Par. (90).

Information Sources:

1. Rock Cut Gage: Direct access to the Rock Cut Gage water level readings is available via telephone modem by dialing (906) 647-8952.

2. Internet: Water level information is available by going to the U.S. Army Corps of Engineers, Detroit District Home Page at the Internet address below and following the suggested pathways:

<http://www.lre.usace.army.mil/>

a. Lake and Connecting Channel Levels: Detroit Home Page > Great Lakes > Hydraulics and Hydrology > Great Lakes Water Levels > Current Conditions.

b. Weekly updates of expected weather, levels, outflows and channel conditions for the Great Lakes and connecting channels are provided each Thursday at: Detroit Home Page > Great Lakes > Hydraulics and Hydrology > Great Lakes Water Levels > Water Level Forecasts > Weekly Great Lakes Water Levels.

c. Specifically for the NOAA PORTS system at the Soo Locks:

-- <http://co-ops.nos.noaa.gov/slports/slports.html>

d. Historic and preliminary water level data is available at NOAA's CO-OPS (Center for Operational Oceanographic Products and Services) site at:

-- http://co-ops.nos.noaa.gov/data_res.html

e. This memorandum is posted on the Internet at:

<http://www.lre.usace.army.mil/Storage/HH/IJC/Superior/index.shtml>

or

-- [Soo Harbor](#) (click on Soo Harbor)

The POC, should further information be required, is Carl Woodruff by telephone at (313) 226-2202, or by e-mail at: Carl.L.Woodruff@lre02.usace.army.mil.

TABLE 1 -- Expected St. Marys River Flows For the period August 1 through September 2, 2003 (1)

Time Period /Day (3)	0000 Hrs to 0700 Hrs	0700 Hrs to 0800 Hrs	0800 Hrs to 1600 Hrs	1600 Hrs to 2200 Hrs	2200 Hrs to 2300 Hrs	2300 Hrs to 2400 Hrs
Weekdays August 1	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)	2,220 m ³ /s (78,300 cfs)	2,220 m ³ /s (78,300 cfs)	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)
Weekend August 2 & 3	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)
Holiday (Canada) August 4 (Monday)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,140 m ³ /s (75,700 cfs)	2,140 m ³ /s (75,700 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)
Weekdays August 5 - 8	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)	2,220 m ³ /s (78,300 cfs)	2,220 m ³ /s (78,300 cfs)	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)
Weekend August 9 & 10	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)	2,010 m ³ /s (71,000 cfs)
Weekdays August 11 - 15	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)	2,220 m ³ /s (78,300 cfs)	2,220 m ³ /s (78,300 cfs)	2,080 m ³ /s (73,600 cfs)	2,080 m ³ /s (73,600 cfs)
Flows shown below for August 16th through September 2nd are provisional at this time						
<i>Weekend August 16 & 17</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>
<i>Weekdays August 18 - 22</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>
<i>Weekend August 23 & 24</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>
<i>Weekdays August 25 - 29</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>
<i>Weekend August 30 & 31</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>	<i>2,010 m³/s (71,000 cfs)</i>
<i>Weekdays September 1 & 2 (Prov.)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,220 m³/s (78,300 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>	<i>2,080 m³/s (73,600 cfs)</i>

TABLE 1 -- Expected St. Marys River Flows For the period August 1 through September 2, 2003 -- Notes

(1) Hydropower will be flowing at decreased rates on weekends and holidays. This will be reviewed during the second week of August. Notification of any change will be made by August 13th. In the interim the flows shown from August 16th through September 2 are indicated as provisional (*flows are shown in italics*). A revised Table 1 will be issued in conjunction with the August 13 notification.

(2) Estimated flows may vary +/- 10 m³/s to 20 m³/s (400cfs to 700 cfs) due to affects of weather influenced level fluctuations on the hydropower operations.

(3) Note the time periods are shown using a twenty-four hour clock.

(4) Holidays: Civic Holiday August 4, 2003 (Canada).

(*Prov.*) = Provisional flows.

Units: m³/s = cubic meters per second
cfs = cubic feet per second

TABLE 2
Projected 2003 End-Of-Month Water Levels (Meters IGLD 1985)
For Lakes Superior and Michigan-Huron

<u>End of Month</u>	<u>LAKE SUPERIOR</u>				<u>LAKES MICHIGAN-HURON</u>			
	<u>Recorded 2002-2003</u>	<u>Supply 5%</u>	<u>Probability 50%</u>	<u>Probability 95%</u>	<u>Recorded 2002-2003</u>	<u>Supply 5%</u>	<u>Probability 50%</u>	<u>Probability 95%</u>
Aug 03	183.39	183.35	183.32	183.29	176.30	176.05	176.02	175.98
Sep	183.42	183.38	183.32	183.26	176.20	176.05	175.98	175.91
Oct	183.40	183.38	183.29	183.21	176.06	176.03	175.92	175.81
Nov	183.33	183.36	183.25	183.15	175.96	176.03	175.88	175.73
Dec	183.22	183.31	183.17	183.05	175.88	176.02	175.84	175.65
Jan 04	183.10	183.27	183.10	182.96	175.78	176.04	175.82	175.60

TABLE 3
Projected 2003 Monthly Mean Outflows (10 m³/s)
For Lakes Superior and Michigan-Huron

<u>Month</u>	<u>LAKE SUPERIOR</u>				<u>LAKES MICHIGAN-HURON</u>			
	<u>Recorded 2002-2003</u>	<u>Supply 5%</u>	<u>Probability 50%</u>	<u>Probability 95%</u>	<u>Recorded 2002-2003</u>	<u>Supply 5%</u>	<u>Probability 50%</u>	<u>Probability 95%</u>
Aug 03	226	214	211	209	508	466	462	459
Sep	226	221	214	208	498	478	469	460
Oct	218	225	211	179	491	485	470	456
Nov	222	223	198	166	480	488	468	448
Dec	209	216	190	158	461	476	450	424
Jan 04	188	208	178	158	406	427	396	366